

1 **Amendment to the Claims**

2 **In the Claims:**

3 Please cancel Claims 2 and 6.

4 Please amend Claims 1, 10, 11, 21, 25, 27, 52, and 58:

5 1. (Currently Amended) A medical simulator for training ultrasound operators to perform
6 cranosynostosis screenings using medical ultrasound, comprising a substantially life size model of a
7 human infant head, said model being at least in part fabricated from a first material, said model
8 including ~~means for preventing tactile detection of a simulated patent skull suture in the model, while~~
9 ~~enabling the simulated patent skull suture to be visually detected based upon an appearance of the~~
10 ~~simulated patent skull suture in an ultrasound image of said model, said means comprising a second~~
11 ~~material that is selected to have at least one simulated patent skull suture comprising a second~~
12 ~~material and a scalp portion in which each simulated patent skull suture is disposed, such that the~~
13 ~~scalp portion of the model is covered with a layer of the second material, the second material~~
14 ~~extending beyond an opening in the first material defining the simulated patent skull suture and~~
15 ~~covering at least a portion of the first material, to prevent the simulated patent skull suture from being~~
16 ~~identified tactilely, the second material having an echogenicity substantially different than an~~
17 echogenicity of said first material, such that each simulated patent skull suture can be readily
18 distinguished in an ultrasound image of said model.

19 2. (Canceled)

20 3. (Canceled)

21 4. (Previously Presented) The medical simulator of Claim 1, wherein the second material is
22 hypoechoic relative to the first material.

23 5. (Previously Presented) The medical simulator of Claim 1, wherein the echogenicity of the
24 second material is lower than the echogenicity of the first material, such that in an ultrasound image
25 of the model, portions of the model corresponding to the first material appear relatively bright and
26 portions of the model corresponding to the second material appear relatively dark.

27 6. (Canceled)

28 7. (Previously Presented) The medical simulator of Claim 1, wherein the second material
29 comprises a mixture of a starch and a glue.

30 8. (Original) The medical simulator of Claim 7, wherein the glue is a casein-based glue.

1 9. (Original) The medical simulator of Claim 7, wherein the glue is a synthetic resin-based
2 glue.

3 10. (Currently Amended) The medical simulator of ~~Claim 2~~ Claim 1, wherein at least one
4 simulated patent skull suture corresponds to at least one of a simulated patent coronal skull suture and
5 a simulated patent lambdoid skull suture, and wherein each opening corresponding to a simulated
6 patent coronal skull suture is beveled, and each opening corresponding to a simulated patent
7 lambdoid skull suture is beveled.

8 11. (Currently Amended) The medical simulator of ~~Claim 2~~ Claim 1, wherein at least one
9 opening corresponding to a simulated patent skull suture corresponds to at least one of a simulated
10 patent sagittal skull suture and a simulated patent metopic skull suture, so that opposed walls of each
11 opening corresponding to a simulated patent sagittal skull suture exhibit an end-to-end configuration,
12 and opposed walls of each opening corresponding to a simulated patent metopic skull suture exhibit
13 an end-to-end configuration.

14 12. (Previously Presented) The medical simulator of Claim 1, further comprising at least one
15 simulated fused skull suture.

16 13. (Original) The medical simulator of Claim 12, wherein each simulated fused skull suture
17 comprises said first material.

18 14. (Previously Presented) The medical simulator of Claim 12, wherein each simulated fused
19 skull suture comprises an opening within said first material, each opening corresponding to a simulated
20 fused skull structure in which a third material is disposed, an echogenicity of the third material being
21 substantially distinguishable from the echogenicity of the second material, so that each opening
22 corresponding to a simulated fused skull suture can be readily distinguished from an opening
23 corresponding to a simulated patent skull suture in an ultrasound image of said model.

24 15. (Original) The medical simulator of Claim 14, wherein the echogenicity of the third
25 material is substantially similar to the echogenicity of the first material, such that in an ultrasound
26 image of the model, portions of the model comprising the first material are not readily distinguishable
27 from portions of the model comprising the third material.

28 16. (Original) The medical simulator of Claim 14, wherein the third material comprises a
29 synthetic elastomer.

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1 17. (Original) The medical simulator of Claim 16, wherein the synthetic elastomer comprises
2 dimethyl siloxane, hydroxy-terminated polymers, and silica.

3 18. (Original) The medical simulator of Claim 12, further comprising an opaque layer
4 configured to cover each simulated patent skull suture and each simulated fused skull suture, so that a
5 trainee cannot readily visually determine whether a specific skull suture is patent or fused by visually
6 inspecting the model.

7 19. (Original) The medical simulator of Claim 1, further comprising an opaque layer
8 configured to cover a scalp portion of the model, so that a trainee cannot readily visually locate each
9 simulated patent skull suture by visually inspecting the model.

10 20. (Original) The medical simulator of Claim 1, wherein a doll's head is utilized for the
11 substantially life size model of a human head.

12 21. (Currently Amended) A medical simulator adapted to be used to train ultrasound
13 operators to perform craniosynostosis screenings using medical ultrasound, comprising:

14 (a) a substantially life size model of a human infant head, said model including a
15 plurality of openings[[,]];

16 (b) a solid or semi-solid hypoechoic material being included in each opening so
17 that the opening corresponds to a simulated patent skull suture, wherein the hypoechoic material
18 causes an echogenicity of the simulated skull suture to differ from that of portions of the model not
19 corresponding to the simulated patent skull suture, the difference enabling each simulated patent skull
20 suture to be identified in an ultrasonic image; and, ~~means for selectively modifying the model~~
21 ~~between training sessions by enabling~~

22 (c) a filler material ~~to be added within~~ for selectively replacing the hypoechoic
23 material included in at least one selected opening, the filler material having an echogenicity that is
24 generally similar to that of the portions of the model not corresponding to the simulated skull suture,
25 so that each opening in which the filler material ~~is added~~ replaces the hypoechoic material simulates a
26 fused skull suture in an ultrasonic image, the model being ~~modified~~ modifiable between training
27 sessions by ~~removing~~ replacing the hypoechoic material with the filler material ~~from the~~ in at least
28 one opening ~~and adding the filler material within at least one other different opening.~~

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1 22. (Previously Presented) The medical simulator of Claim 21, wherein when the medical
2 simulator is imaged using ultrasound, the hypoechoic material produces a relatively dark image,
3 whereas adjacent portions of the model produce a relatively bright image, such that each simulated
4 patent skull suture appears in the ultrasound image as a relatively dark area surrounded by relatively
5 brighter areas.

6 23. (Previously Presented) The medical simulator of Claim 21, wherein said model is
7 fabricated from a first material, such that the solid or semi-solid hypoechoic material included in each
8 opening corresponding to a simulated patent skull suture represents a second material, an
9 echogenicity of the second material being substantially different than the echogenicity of the first
10 material, so that each opening corresponding to a simulated patent skull suture can be readily
11 distinguished from the first material in an ultrasound image of said model.

12 24. (Previously Presented) The medical simulator of Claim 23, wherein the echogenicity of
13 the second material is lower than the echogenicity of the first material, such that in an ultrasound
14 image of the model, portions of the model comprising the first material will appear relatively bright,
15 while portions of the model comprising the second material will appear relatively dark.

16 25. (Currently Amended) The medical simulator of Claim 23, wherein the filler material
17 ~~added within at least one opening corresponding to a simulated~~ for simulating a fused skull suture
18 comprises a third material, an echogenicity of the third material being substantially different than the
19 echogenicity of the second material, so that each opening corresponding to a simulated fused skull
20 suture can be readily distinguished from an opening corresponding to a simulated patent skull suture
21 in an ultrasound image of said model.

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1 26. (Previously Presented) The medical simulator of Claim 21, wherein:

2 (a) each opening corresponding to a simulated patent skull suture intended to
3 represent a patent coronal skull suture is beveled;

4 (b) each opening corresponding to a simulated patent skull suture intended to
5 represent a patent lambdoid skull suture is beveled;

6 (c) each opening corresponding to a simulated patent skull suture intended to
7 represent a patent sagittal skull suture is disposed such that opposed walls of the opening exhibit an
8 end-to-end configuration; and

9 (d) each opening corresponding to a simulated patent skull suture intended to
10 represent a patent metopic skull suture is disposed such that opposed walls of the opening exhibit an
11 end-to-end configuration.

12 27. (Currently Amended) An ultrasound trainer configured to train ultrasound operators to
13 perform craniosynostosis screenings using medical ultrasound; comprising a substantially life size
14 model of a human infant head, said model including at least one simulated patent skull suture and at
15 least one simulated fused skull suture, an echogenicity of each simulated patent skull suture enabling
16 the simulated patent skull suture to be readily distinguishable from each simulated fused skull suture
17 in an ultrasound image of said model, such that each simulated patent skull suture will appear dark in
18 such an ultrasound image, and each simulated fused skull suture will appear bright in such an
19 ultrasound image.

20 Claims 28.-51. (Canceled)

21 52. (Currently Amended) A medical simulator for training ultrasound operators to perform
22 craniosynostosis screenings using medical ultrasound, comprising a substantially life-size model of a
23 human infant head, said model including two eyes, a mouth, two ears, and at least one simulated
24 patent skull suture that can be selectively modified to appear as a simulated fused skull suture, a
25 difference in echogenicity of each simulated patent skull suture and each simulated fused skull suture
26 enabling each simulated patent skull suture to be readily distinguishable from non suture portions of
27 the model and from each simulated fused suture in an ultrasound image of said model.

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1 53. (Previously Presented) A medical simulator for training ultrasound operators to perform
2 cranosynostosis screenings using medical ultrasound, comprising a substantially life size model of a
3 human head, said model including a plurality of simulated patent skull sutures, an echogenicity of
4 each simulated patent skull suture enabling the simulated patent skull suture to be readily
5 distinguishable in an ultrasound image of said model, such that each simulated patent skull suture
6 will appear dark in such an ultrasound image, whereas adjacent portions of said model will appear
7 bright in such an ultrasound image; and, further comprising means for reversibly modifying one or
8 more selected simulated patent skull sutures to create one or more simulated fused skull sutures that
9 can readily be detected in an ultrasound image, wherein each simulated fused skull suture will appear
10 bright in the ultrasound image, like the portions of the model that are adjacent to the simulated patent
11 skull sutures.

12 54. (Previously Presented) A medical simulator for training ultrasound operators to perform
13 cranosynostosis screenings using medical ultrasound, comprising a substantially life size model of a
14 human head, said model being at least in part fabricated from a first material, said model including:

15 (a) at least one simulated patent skull suture being at least in part fabricated from a
16 second material, said second material comprising at least one of a solid and a semi-solid, an
17 echogenicity of said second material being substantially different than an echogenicity of said first
18 material, such that each simulated patent skull suture can be readily distinguished in an ultrasound
19 image of said model; and

20 (b) at least one simulated fused skull suture, wherein each simulated fused skull
21 suture comprises an opening within said first material, a third material being disposed within each
22 opening corresponding to a simulated fused skull structure, an echogenicity of the third material
23 being substantially distinguishable from the echogenicity of the second material, so that each
24 simulated fused skull suture can be readily distinguished from each simulated patent skull suture in
25 an ultrasound image of said model.

26 55. (Previously Presented) The medical simulator of Claim 54, wherein the echogenicity of
27 the third material is substantially similar to the echogenicity of the first material, such that in an
28 ultrasound image of the model, portions of the model comprising the first material are not readily
29 distinguishable from portions of the model comprising the third material.

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1 56. (Previously Presented) The medical simulator of Claim 54, wherein the third material
2 comprises a synthetic elastomer.

3 57. (Previously Presented) A medical simulator adapted to be used to train ultrasound
4 operators to perform craniosynostosis screenings using medical ultrasound, comprising:

5 (a) a substantially life size model of a human head, said model including at least
6 one opening corresponding to a simulated patent skull suture, a solid or semi-solid hypoechoic
7 material being disposed within each such opening to enhance a difference in an echogenicity of the
8 simulated skull suture relative to that of portions of the model not corresponding to the simulated
9 patent skull suture, the difference enabling each simulated patent skull suture to be identified in an
10 ultrasonic image, said model being fabricated from a first material, such that the solid or semi-solid
11 hypoechoic material disposed within each opening corresponding to a simulated patent skull suture
12 represents a second material, an echogenicity of the second material being substantially different than
13 the echogenicity of the first material, so that each opening corresponding to a simulated patent skull
14 suture can be readily distinguished from the first material in an ultrasound image of said model; and

15 (b) at least one opening corresponding to a simulated fused skull suture, a third
16 material being disposed within each opening corresponding to a simulated fused skull suture, an
17 echogenicity of the third material being substantially different than the echogenicity of the second
18 material, so that each opening corresponding to a simulated fused skull suture can be readily
19 distinguished from an opening corresponding to a simulated patent skull suture in an ultrasound
20 image of said model.

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1 58. (Currently Amended) A medical simulator ~~kit~~ adapted to be used to train ultrasound
2 operators to perform craniosynostosis screenings using medical ultrasound, comprising:

3 (a) a substantially life size model of an infant head, said model including a
4 plurality of openings each corresponding to a simulated patent skull suture, a hypoechoic material
5 being disposed within the opening to enhance a difference in an echogenicity of the simulated skull
6 suture relative to that of portions of the model not corresponding to the simulated patent skull suture,
7 the difference enabling each simulated patent skull suture to be identified in an ultrasonic image;
8 and ~~[[,]] instructions for selectively adding~~

9 (b) a first filler material that can be selectively added to at least one of the plurality
10 of openings by a user, said first filler material having an echogenicity about equal to that of the
11 portions of the model not corresponding to a simulated patent skull suture, such that when the first
12 filler material is added to at least one opening, ~~in order to create the first filler material in the opening~~
13 creates a simulated fused skull suture.